

Date: Fri, 4 Feb 94 04:30:28 PST
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Errors-To: Ham-Homebrew-Errors@UCSD.Edu
Reply-To: Ham-Homebrew@UCSD.Edu
Precedence: Bulk
Subject: Ham-Homebrew Digest V94 #19
To: Ham-Homebrew

Ham-Homebrew Digest Fri, 4 Feb 94 Volume 94 : Issue 19

Today's Topics:

 High Voltage Power Supply
 IC Info, "042P"
 Microphones & motorcycle helmets
 Mystery components? Help?
 Old Microwave Oven
 Questions on 2m Amp Market
 Ramsey 6m radion front end tuneing
 Schematics CAD, anyone?
 Variable capacitors and fundamental xtals, help!

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Mon, 31 Jan 1994 15:38:56 GMT
From: hearst.acc.Virginia.EDU!cscsun!dtiller@uunet.uu.net
Subject: High Voltage Power Supply
To: ham-homebrew@ucsd.edu

Jim Hollenback (jholly@cup.hp.com) wrote:
: Martin Stille (msti0087@rz.uni-hildesheim.de) wrote:
: : Hi OM's

: : I need a high voltage power supply for a tube PA.
: : But I can't find the right schematic and part list.
: : The tube runs with a current of 7000V and 2Amp.
: : I hope you can help me.
: : Thank's Martin

: hmmm, 7kv x 2 amp, about 14kw on the plate....thats one healthy afterburner.
: You should be worried about the coax feed also.

Also worry about soft X-ray emission at 7kV - that kind of voltage with that amount of current pushing it should generate lots of low energy X-Rays.

--

David Tiller | Network Administrator | Voice: (804) 752-7373 |
dtiller@rmc.edu | Randolph-Macon College | Fax: (804) 752-7231 |
n2kau@wa4ong.va.usa.na | P.O. Box 5005 | ICBM: 37d 42' 43.75" N |
+++Arch-Conservative+++ | Ashland, Va 23005 | 77d 31' 32.19" W |

Date: 1 Feb 1994 18:57:59 -0800
From: nntp.crl.com!crl2.crl.com!not-for-mail@decwrl.dec.com
Subject: IC Info, "042P"
To: ham-homebrew@ucsd.edu

David_Shalita.ES_AE@Xerox.COM wrote:

: A friend of mine has a swap meet special that uses an IC
: marked "042P". The IC seems to take a 46 to 63 mhz input,
: seems to be a mixer oscillator, and has a 10.7 mhz ouput.
: He needs to purchase a few more. The vendor is unknown.

Gee, this stirs up some cobbwebs, but I forget who the vendor was. That chip is really an S042P. It was a hot mixer IC in it's day.

Perhaps with the full P/N someone else will remember the vendor...

Good Luck!

--

~~ dmiller@crl.com ~~~~~
~ Don Miller > Opinions expressed here < "They will never forget you ~
~ ESP, Inc. > are my own! < till somebody new comes along"~
~~~~~ -->The Eagles<~~~~~

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Date: Thu, 03 Feb 1994 19:11:25 -0800  
From: dog.ee.lbl.gov!agate!kos4mac22.berkeley.edu!user@network.ucsd.edu  
Subject: Microphones & motorcycle helmets  
To: ham-homebrew@ucsd.edu

I'm wondering if anyone has a good system for reducing the wind and engine noise picked up by full-faced helmet microphones. A lot of the noise seems to come up from under the chin bar. Would it be feasible to rig a noise-cancelling, two-microphone system such that one microphone pointed downward is connected 180 degrees out of phase with one aimed at the mouth? Is there something else that might do the trick? I'd also like to be able to run VOX without shouting into the mike (Shouting in the helmet seems to cause horrible sounding audio).

Anyone out there with some experience at rigging helmet systems?

Regards,  
Tim Ikeda  
timi@mendel.berkeley.edu

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Date: 1 Feb 94 15:49:53  
From: news.mentorg.com!hpcan240.mentorg.com!hpcan240!c2k@uunet.uu.net  
Subject: Mystery components? Help?  
To: ham-homebrew@ucsd.edu

In article <1994Jan29.213947.1@aurora.alaska.edu> fsrla@aurora.alaska.edu writes:

Newsgroups: rec.radio.amateur.homebrew  
Path: hpcan240.mentorg.com!news.mentorg.com!psinntp!psinntp!uunet!  
elroy.jpl.nasa.gov!sdd.hp.com!caen!usenet.coe.montana.edu!netnews.nwnet.net!  
raven.alaska.edu!aurora.alaska.edu!fsrla  
From: fsrla@aurora.alaska.edu  
Subject: Mystery components? Help?  
Message-ID: <1994Jan29.213947.1@aurora.alaska.edu>  
Lines: 37  
Sender: news@raven.alaska.edu (USENET News System)  
Nntp-Posting-Host: aurora.alaska.edu  
Organization: University of Alaska Fairbanks  
Date: Sun, 30 Jan 1994 06:39:47 GMT

HELP!!!!!!!!!!!!

I ordered a couple of "assortment" packages from ALL ELECTRONICS. Now, I could figure out what most things were, but there were still some "mystery" components that I just can't figure out.  
FIRST, I ordered the 200 Assorted 1/4 watt resistors for a buck assortment. (part# GRES)  
I figure d out most of these except for two odd ones.  
The first was a resistor with just a single black stripe running down the middle of it.....what is it?

ha

The second one was blue and had the following letter, number sequence.

P  
RN55D  
3572  
FJ

Welllll.. I stopped my anti-social hardware tendencies about 5 yrs ago, and now do mostly software... but... I believe an RN55D is a milspec 1% resistor. The value would be  $357 \times 10^2$  or 35.7KOhms. I don't remember what the FJ means...

What is this one?

The other assortment pack I got was just 200 assorted resistors, capacitors, and diods. There were some things in here that baffled me as well.

First off, all the capacitors were strange to me. I;m used to radials and disks, but these ones where different.

They had the following number sequences.

The first one: 1M+      The second: .47    and the third:

1 62D

|               |      |       |
|---------------|------|-------|
| 35V 2         | 35VK | 1-35V |
| cicled< 8034+ | 2+   | 2+    |

Any help on these?

The first one is probably a 1uF 35 volt tantalum. The circle usually indicates the negative terminal.

The second .47uF at 35 volts -- the '+' indicates the positive terminal.

The third a 1uF 35 volt...

And, lastly, are the diods from this group.

There were a bunch of black (silicon?) diodes. The only mark they had was a single yellow line on one edge. Any help here?

These could be anything -- the yellow line indicates the cathode end of the diode:

-----|\\|-----  
          |/| yellow stripe end

two choices here -- test 'em and use 'em best as can in non-critical locations, or chuck 'em. (Or do like I do \*plan\* to test them, then explain to the XYL why I need

32 gazillion boxes full of parts &-)

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Hope these aren't stupid questions. any help is much appreciated!  
Thanks in advance!  
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Email at: FSRLA@AURORA.ALASKA.EDU  
Roger Asbury WL7NT

Good Luck,  
Carl

--

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My opinions are mine, (all mine), and do not necessarily reflect  
those of my employer.

Carl Ketcham carl\_ketcham@mentorg.com WA7ZBV  
Mentor Graphics, Suite 300, 5295 South 300 West, Murray, Utah 84107  
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Date: Wed, 02 Feb 94 08:54:23 GMT  
From: library.ucla.edu!europa.eng.gtefsd.com!emory!rsiatl!jgd@network.ucsd.edu  
Subject: Old Microwave Oven  
To: ham-homebrew@ucsd.edu

ren@rap.ucar.edu (Ren Tescher) writes:

>Recently a neighbor threw out a microwave oven, being an avid  
>recycler and former uwave repairman, I was duty bound to take it  
>home. Well it operates, but it leaks radiation like crazy,  
>(I measured it with a Schottky Barrier Diode and an LED  
>but that's another story...) so I'm not gonna use it (I've got a  
>decent Amana anyway).  
> Soooo.....what can I do with it? I recall reading on the  
>net where someone thought the Magnetron and Pwr Sup. could be used  
>for EME morse code transmission. But what else?

Well you could rip off the door, jimmie the door switch, hang it  
from the side of your tower, hook a giant morris kode key up to  
it and send nifty secret messages to your buddy across the  
neighborhood with the LEd and the Schottky diode :-)

73 John

--

John De Armond, WD40QC, Marietta, GA jgd@dixie.com  
Performance Engineering Magazine.

"Dr. Kevorkian, please report to the Oval Office."

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Date: 4 Feb 94 03:14:52 GMT  
From: ogicse!emory!gatech!prism!gt6681a@network.ucsd.edu  
Subject: Questions on 2m Amp Market  
To: ham-homebrew@ucsd.edu

Hello. I am conducting some preliminary market research for a small business which I plan to start during 94. I am considering offering 2m amplifier kits. My questions at this point call for a survey of sorts to determine what features are important and in fact is such a kit likely to have any appeal.

Please respond via email if you have opinions on the following.

1. Would you consider building a kit amplifier if the performance was comparable with current market offerings?
2. If yes to question 1, how much savings are required to justify building a kit versus buying a built amplifier.
3. What features would you most like to have in a kit?
4. Are there any features which current market offerings do not have that you would like to see in a kit?
5. Do you think use of amplifiers with HTs, particularly for mobile use would significantly improve your communications?

Thanks in advance for any feedback, and please add any additional info that you think is appropriate for this research.

--

Robert Craig Newbold  
Georgia Institute of Technology, Atlanta Georgia, 30332  
uucp: ...!{decvax,hplabs,ncar,purdue,rutgers}!gatech!prism!gt6681a  
Internet: gt6681a@prism.gatech.edu

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Date: Thu, 3 Feb 94 20:59:26 -0500  
From: noc.near.net!news.delphi.com!usenet@uunet.uu.net  
Subject: Ramsey 6m radion front end tuneing  
To: ham-homebrew@ucsd.edu

The blue coils are part of a bandpass filter for the front end, check the

schematic - see how they are in parallel with caps. The quadrature coil is adjusted for a 90 degree phase shift of the 455 khz IF signal on the detector chip, believe me it's just easier to adjust for best hiss or best audio. John Ramsey

-----  
Date: Tue, 1 Feb 1994 20:41:59 GMT  
From: yuma!csn!col.hp.com!srngenprp!alanb@purdue.edu  
Subject: Schematics CAD, anyone?  
To: ham-homebrew@ucsd.edu

Uri Blumenthal (uri@watson.ibm.com) wrote:

: Is there a decent CAD program, that does schematics?  
: If it can \_also\_ output results in format either  
: suitable for Gerber, ...

I think Circad by Holophase Inc. would fill all your requirements. The free demo version is fully-functional except it limits the number of components (but adequate for most ham projects.) The commercial version runs around \$1000, but they will sell it to hams (with use restricted to non-business purposes and no support) for \$300.

I found the program powerful and easy to use. It does both schematics and PC layouts, with netlist checking between the two. Output formats include Gerber, HPGL (plotter), PCL (Laserjet printer), and a number of other CAD program formats.

Holophase Inc, 6191 Orange Drive, Suite 6173-L, Davie FL 33314  
Sales: (305) 584-0010  
Tech: (305) 584-5123  
FAX: (305) 584-5972

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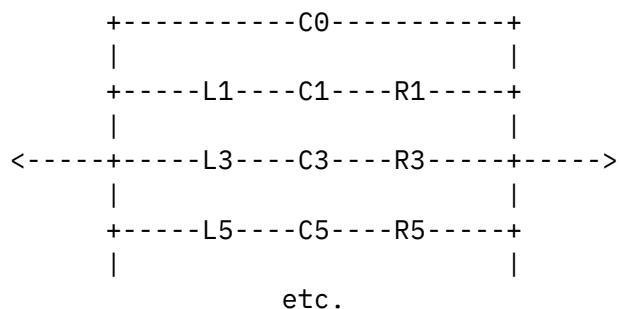
-----  
Date: Wed, 2 Feb 1994 22:34:41 GMT  
From: library.ucla.edu!europa.eng.gtefsd.com!howland.reston.ans.net!cs.utexas.edu!sdd.hp.com!col.hp.com!srngenprp!alanb@network.ucsd.edu  
Subject: Variable capacitors and fundamental xtals, help!  
To: ham-homebrew@ucsd.edu

asirene@ntuvax.ntu.ac.sg (asirene@ntuvax.ntu.ac.sg) wrote:

: Another thing, what is considered a fundamental frequency  
: xtal? Are the 14.318 MHz crystals found in the TV sets considered

: fundamental 14.318 MHz xtals? Or should I be looking for something  
: different?

Any crystal can be made to oscillate on either its fundamental or overtone frequencies. The overtones occur at APPROXIMATELY odd multiples of the fundamental frequency. Note that while harmonics occur at precise multiples of the fundamental, overtones are only approximate. When a crystal is oscillating on an overtone, no fundamental energy is present. The equivalent circuit of a crystal:



C0 is the shunt (holder) capacitance. L1/C1 determine the fundamental frequency, L3/C3 the third overtone, L5/C5 the fifth overtone, etc. As you can see, the crystal is resonant on many different frequencies at once. An "overtone" crystal is one specially designed and specified to work at one of its overtones.

If your oscillator does not include a tuned circuit, it will likely oscillate at the fundamental frequency, because most transistors (and tubes) have more gain at low frequencies than high frequencies. Also, R2, R3, etc. are usually larger than R1, so the oscillator "wants" to oscillate at the fundamental.

To get the oscillator to oscillate at an overtone, you need to include a tuned circuit or other frequency-determining element in the circuit to "kill" the gain at the fundamental frequency and force the oscillator to oscillate at an overtone.

Most crystals below 20 MHz or so are fundamental. Above 20 or 30 MHz, most are overtone type. Your 14.318 MHz unit is probably fundamental.

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Date: Wed, 2 Feb 1994 00:31:57 GMT  
From: library.ucla.edu!agate!howland.reston.ans.net!spool.mu.edu!news.clark.edu!  
netnews.nwnet.net!raven.alaska.edu!aurora.alaska.edu!fsrla@network.ucsd.edu  
To: ham-homebrew@ucsd.edu



References <1994Jan29.213947.1@aurora.alaska.edu>,  
<2ighsc\$e5s@reznor.larc.nasa.gov>, <2ijdlld\$6c1@apple.com>ews.nwn  
Subject : Re: Mystery components? THANKS!

In article <2ijdlld\$6c1@apple.com>, kchen@apple.com (Kok Chen) writes:  
> kludge@grissom.larc.nasa.gov (Scott Dorsey) writes:  
>  
>>In article <1994Jan29.213947.1@aurora.alaska.edu> fsrla@aurora.alaska.edu  
writes:  
>  
>>>The second one was blue and had the following letter, number sequence.  
>>>                  P  
>>>                  RN55D  
>>>                  3572  
>>>                  FJ  
>>>What is this one?  
>>  
>>Two pins on it? Shaped like a disc capacitor?  
>  
>  
> The RN55D looks suspiciously like the designator for a precision  
> metal film resistor. So is the blue colour. Assuming it is an axial  
> device, instead of a disc shaped device as Scott has guessed, I would  
> guess that this is a 35.7 kilo ohm resistor.  
>  
> Don't you have an ohm guesser meter handy?  
>  
> 73,  
>  
> Kok Chen, AA6TY                            kchen@apple.com  
> Apple Computer, Inc.

Nope, low on cash at the moment. And pretty much just starting in this  
kinda thing. Most of the "mystery components" have been named now, but there  
are still some that are odd. Lots of different answers to the same items.

However, I do THANK everyone INTENSLY for their help. It's obvious I need to  
get out and purchase some test equipment. Thanks again, I now have names for  
more than half the strange stuff I recieved.

Tantalium (spelling?) capacitors, 0 ohm resistors. So thanks again!!!!!!!  
The blue resistors are what seem to baffle others. I got lots of different  
answers on those!!!!!!!

-----THANKS AGAIN!!!!-----

Roger Asbury                    WL7NT  
FSRLA@AURORA.ALASKA.EDU

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Date: 2 Feb 1994 23:29:27 GMT  
From: ucsnews!sol.ctr.columbia.edu!howland.reston.ans.net!europa.eng.gtefsd.com!  
news.ans.net!malgudi.oar.net!infinet!cyborg@network.ucsd.edu  
To: ham-homebrew@ucsd.edu

References <2ilfki\$cmb@vixen.cso.uiuc.edu>, <2ifpg5\$oi5@rigel.infinet.com>,  
<2intj5\$au1@cismsun.univ-lyon1.fr>ns.ne  
Subject : Re: want to build reciever for 108-137Mhz

Elendir (elendir@enst.fr) wrote:  
: Kristopher Hurt (cyborg@infinet.com) wrote:  
: : Chad Berthelson (berthec@osiris.cso.uiuc.edu) wrote:  
: : : As the subject line says, I want a tunable receiver that will pick  
: : : up Air Bands (108-137 Mhz).  
  
: : You can convert any standard Broadcast FM reciever to get Aircraft. To do  
: : so is a matter of spreading the tuning coil (a length of copper wire in a  
: : coil, usually coated with wax) out pretty much as far as they can go.  
  
: Be careful that while FM broadcast is FM :), aircraft band is AM. SO that  
: is more than a simple mod. (At least in Europe)  
  
: Vince.

Read the last couple of lines again...The last step of the mod changes  
the reception from FM to AM. This mod takes all of 10 minutes to do.

Later,  
Kristopher D. Hurt  
cyborg@infinet.com

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End of Ham-Homebrew Digest V94 #19

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